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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,554	10/24/2003	Fumii Higuchi	D/A1101D	3608

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EXAMINER

DANIELS, MATTHEW J

ART UNIT PAPER NUMBER

1732

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/693,554

Applicant(s)

HIGUCHI, FUMII

Examiner

Matthew J. Daniels

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 10/29/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/24/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. Figures 1-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: For example, see RS2 and RB2 in Figure 4. A complete list is not provided, and Applicant should ensure the accuracy and correctness of the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

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required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Information Disclosure Statement***

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Claim Rejections - 35 USC § 112***

4. **Claims 1-12 and 17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **As to Claims 1 and 7**, "the aperture" lacks antecedent basis. **As to Claims 5, 11, and 17**, how can initiator be added "within the extruder" (Claims 1, 7, 13) but also have been premixed (Claims 5, 11, 17) with the resin?

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-4, 6-10, 12-16, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi (USPN 5686219) in view of Meinander (WO 99/43886). As to **Claim 1**, Higuchi teaches a method for preparing a toner resin from a base resin, comprising:

conveying a base resin to an aperture in a housing of a toner extruder, the housing surrounding a conveyor (Figs. 1-5);

inhibiting adhesion of melted resin to walls of the aperture (substantially the same as the disclosed mixer, and also includes water cooling, 306 in Fig. 1);

adding chemical initiator to a toner extruder (3:57-4:5);

mixing the base resin and the chemical initiator within the extruder to form the mixed resin (3:57-4:5); and

conveying the mixed resin within the extruder to an extruding die (Fig. 3, 120).

Higuchi is silent to providing a lead-in gap at a feed port end of the conveyor. However, lead-in gaps at a feed port end would have been obvious over Meinander, who teaches a lead-in gap at a feed port end of a conveyor (Figs. 3-4B).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Meinander into that of Higuchi because Higuchi clearly suggests that a suitable shape and clearances should be selected or chosen (6:60-65, 8:50-67) and Meinander clearly suggests that a wedge-like inlet is most desirable to provide a maximally efficient mass introduction (page 15, lines 5-14).

As to **Claims 2 and 3**, because the method disclosed by Higuchi is substantially the same as the claimed method, the repelling and inhibiting adhesion would be inherent or obvious in

Higuchi's method alone or combined with Meinander. **As to Claim 4**, Higuchi teaches a spacing between the housing and the conveyor (8:50-67). **As to Claim 6**, Higuchi cools the base resin (4:27 and elsewhere).

**As to Claim 7**, Higuchi teaches a toner resin preparation method comprising:

- providing a base resin (3:59-60);
- providing a toner extruder comprising a housing and a conveyor in the housing (Figs. 1-5);
- placing base resin in the toner extruder (Fig. 2, item 26);
- conveying base resin to an aperture in the toner extruder housing (Fig. 1);
- inhibiting adhesion of melted resin to walls of the aperture (substantially the same as the disclosed mixer, and also includes water cooling, 306 in Fig. 1);
- adding chemical initiator to the base resin in the toner extruder (3:57-4:5);
- mixing the base resin and the chemical initiator within the extruder to form a mixed resin (columns 3-7);
- conveying the mixed resin within the extruder to an extruding die (Fig. 2, item 120); and
- extruding the mixed resin through the extruding die to form toner resin (Fig. 2, item 120, 4:66-5:10).

Higuchi is silent to providing a lead-in gap at a feed port end of the conveyor. However, lead-in gaps at a feed port end would have been obvious over Meinander, who teaches a lead-in gap at a feed port end of a conveyor (Figs. 3-4B).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Meinander into that of Higuchi because Higuchi

clearly suggests that a suitable shape and clearances should be selected or chosen (6:60-65, 8:50-67) and Meinander clearly suggests that a wedge-like inlet is most desirable to provide a maximally efficient mass introduction (page 15, lines 5-14).

**As to Claims 8 and 9**, because the method disclosed by Higuchi is substantially the same as the claimed method, the repelling and inhibiting adhesion would be inherent or obvious in Higuchi's method alone or combined with Meinander. **As to Claim 10**, Higuchi teaches a spacing between the housing and the conveyor (8:50-67). **As to Claim 12**, Higuchi cools the base resin (4:27 and elsewhere).

**As to Claim 13**, Higuchi teaches a toner resin preparation method in an apparatus that has an aperture (Fig. 1, items 210 and 214) comprising:

- providing a base resin (3:59-60);
- placing base resin in the toner extruder (Fig. 2, item 26);
- conveying base resin to an aperture in the toner extruder housing (Fig. 1);
- inhibiting adhesion of melted resin to walls of the aperture (substantially the same as the disclosed mixer, and also includes water cooling, 306 in Fig. 1);
- adding chemical initiator to the base resin in the toner extruder (3:57-4:5);
- mixing the base resin and the chemical initiator within the extruder to form a mixed resin (columns 3-7);
- conveying the mixed resin within the extruder to an extruding die (Fig. 2, item 120); and
- extruding the mixed resin through the extruding die to form toner resin (Fig. 2, item 120, 4:66-5:10).

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Higuchi is silent to providing a lead-in gap at the feed port. However, lead-in gaps at a feed port end would have been obvious over Meinander, who teaches a lead-in gap at a feed port end of a conveyor (Figs. 3-4B).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Meinander into that of Higuchi because Higuchi clearly suggests that a suitable shape and clearances should be selected or chosen (6:60-65, 8:50-67) and Meinander clearly suggests that a wedge-like inlet is most desirable to provide a maximally efficient mass introduction (page 15, lines 5-14).

**As to Claims 14 and 15**, because the method disclosed by Higuchi is substantially the same as the claimed method, the repelling and inhibiting adhesion would be inherent or obvious in Higuchi's method alone or combined with Meinander. **As to Claim 16**, Higuchi teaches a spacing between the housing and the conveyor (8:50-67). **As to Claim 18**, Higuchi cools the base resin (4:27 and elsewhere).

6. **Claims 5, 11, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi (USPN 5686219) in view of Meinander (WO 99/43886), and further in view of Bayley (USPN 5397671). Higuchi and Meinander teach the subject matter of Claims 1, 7, and 13 above under 35 USC 103(a). **As to Claim 5**, Higuchi appears to be silent to the premixing of the base resin with the initiator. However, Bayley teaches that when an initiator is solid, it is preferable if the base resin and initiator are preblended (8:40-60). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bayley into that of Higuchi in order to avoid agglomeration of the initiator in the mixing apparatus. **As**



to **Claim 11**, Higuchi appears to be silent to the premixing of the base resin with the initiator. However, Bayley teaches that when an initiator is solid, it is preferable if the base resin and initiator are preblended (8:40-60). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bayley into that of Higuchi in order to avoid agglomeration of the initiator in the mixing apparatus. **As to Claim 17**, Higuchi appears to be silent to the premixing of the base resin with the initiator. However, Bayley teaches that when an initiator is solid, it is preferable if the base resin and initiator are preblended (8:40-60). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bayley into that of Higuchi in order to avoid agglomeration of the initiator in the mixing apparatus.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wiedmann (USPN 4234259) is cited for teaching of the conventional nature of water cooling channels (item 7 and 3:1-15). The reference is not relied upon in a rejection because the lead-in gap of Wiedmann operates differently with the rotation of the mixing elements than in the claimed invention.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJD 10/17/06



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SUPERVISORY PATENT EXAMINER  
10/20/06